

NOTES ON THE HYMENOPTEROUS GENUS *MEGALYRA* WESTW., WITH DESCRIPTIONS OF NEW SPECIES.

BY WALTER W. FROGGATT.

The genus was formed by Westwood to contain a remarkable parasitic wasp which he called *Megalyra fasciipennis*; this is figured, with very slight description, in Griffith's 'Animal Kingdom,' 1832. Some years later he obtained a male, which he described, at the same time defining the genus. Erichson, about the same time (1841), described a species under the name of *M. rufipes*, from Tasmania, which Westwood found to be identical with his species. In 1851, Westwood added two more species; thereafter nothing more was done at the group until 1889, when Schletterer described two species. In 1902 Szepligeti wrote an important paper on these insects, adding three new species—one from Australia, one from New Guinea, and a third from Ceram; and at the same time he tabulated all the known species. Last year, 1905, Bradley translated Szepligeti's table of species, and added a seventh species to the genus.

The members of this genus, with the exception of the species from New Guinea and Ceram, are peculiar to Australia; and are chiefly confined to open forest country. They are very distinctive-looking insects, usually all black, with the antennæ and legs sometimes more or less reddish-brown; the head and thorax are coarsely punctured, and elongate in general form. The globular head is provided with short stout mandibles, pointed at the tips, with two blunt teeth below; the maxillary palpi are composed of five irregular joints, and the labial palpi of three regular ones; the antennæ, situated in front of the head, consist of thirteen irregular slender joints, with a stout short basal one; the finely faceted eyes are large and circular, and project slightly on the sides of the head; and on the summit between them are three ocelli form-

ing a small triangle. The broad truncate thorax fits close behind the head, bearing a short blunt spine on either side behind the eyes; it is of a uniform thickness, slightly sloping behind to the truncate hindmargin where it is attached to the oblong-oval sessile abdomen which, in the male, is furnished with a short pair of reddish claspers at the anal extremity. In the larger females the abdomen is broadly rounded to the apex, and is provided with a curious slender ovipositing apparatus; this, when closed, looks like a stout black horse-hair several times the length of the whole insect, but it is usually opened out into three distinct parts, namely, two slender hair-like setæ, and the reddish thickened tubular ovipositor. The wings are either deeply clouded or barred with fuscous, and contain few cross-veins. The legs are moderate, with thickened thighs. The whole insect is often more or less clothed with short grey hairs.

The species can be divided into two groups—those with clouded wings, and those with forewings distinctly barred in the centre. The situation of the ocelli, the general sculpture of the head and thorax, together with the markings on the dorsal surface of the abdominal segments, are constant specific characters. The size of the insects, and the length of the ovipositor, are very variable in the same species; and the reddish tints noted by some describers are not always specific, but due to the maturity or otherwise of the specimen when captured. The forms with clouded wings seldom or never have red legs or variegated antennæ.

In Dalla Torre's 'Catalogue of the Hymenoptera of the World,' this group is raised to the rank of a family (Megalyridæ) containing the genera *Megalyra* and *Iseura*, the latter represented by a single species from Brazil.

Nothing has been recorded about the habits of these remarkable insects; but they deposit their eggs in the larvæ of the longicorn beetles which live beneath the bark in the sap-wood of Wattles and Eucalypts.

Through the kindness of Messrs. French, Lea, Kershaw, and Tepper, who have lent me the specimens in their collections, and

from the examination of the series in the Macleay Museum, and in my own private collection, I have had under examination the largest collection of these curious parasitic wasps ever brought together.

MEGALYRA SHUCKARDI Westw.

Trans. Ent. Soc. London, p.223, tab.7, f.1, 1851.

The only specimen of this species I have seen came from South Australia among specimens from the Adelaide Museum. It is somewhat larger than *M. mutilis*, the body measuring 12 lines, and the ovipositor 44.

All black, thickly clothed with white hairs upon the front and back of the head, abdominal segment fringed on the sides with short tufts forming irregular bars of silvery white; posterior ocelli nearer to each other than to the edges of the compound eyes; forewings with a dull light spot or blotch towards the apical part of the centre.

Hab.—Adelaide, S.A. (J. G. O. Tepper), South Australia (Macleay Museum). Two specimens (♀).

MEGALYRA MUTILIS Westw.

Trans. Ent. Soc. London, (2nd Ser.) 1851, p.226.

This large black species has uniformly clouded pitch-brown, rounded wings which are very small in comparison with the body. The head and thorax are roughened, the abdomen elongate-oval, shining, impressed on the sides with fine punctures. Length of body 11 lines; wings 8 lines.

The very small almost black wings are quite different from those of any species I have ever seen, and would almost lead one to think it was an undeveloped specimen.

Hab.—Adelaide, S.A (Westwood).

MEGALYRA MELANOPTERA Schl.

Berlin. Entom. Zeitschr. xxxiii p.244, 1889 (♀).

This appears to be the common large black-winged species which is generally to be found in our collections ticketed *M. shuckardi*, from which it differs in having the wings of a uniform

black or pitch-brown tint, without a hyaline spot on the fore pair, and the basal segments of the abdomen smooth and shining, with the others finely shagreened. The male is unknown. The female measures 9 lines in length, and the ovipositor 28 lines.

Mr. H. W. Cox informs me that he has bred a specimen of this parasitic wasp from the pupa of a longicorn beetle (*Rhytiphora polymita*) enclosed in a stout stem of *Acacia decurrens* which was cut out of a tree growing near Sydney.

Hab.—Oakleigh and Brighton, Vic. (Kershaw); South Australia (G. Masters); Sydney and Shoalhaven, N.S.W. (W.W. Froggatt).

MEGALYRA MASTERSI, n.sp.

♀. Black, with wings uniform pitch-brown, paler on hind margins. Head coarsely punctured; anterior ocelli nearer to each other than to the eyes. Thorax coarsely punctured; frontal spines on prothorax small but projecting. Dorsal surface of abdomen with the first segment smooth and shining, the rest finely shagreened, not shining; with scattered grey hairs on the dorsal surface and sides of abdomen. Length of body $\frac{1}{2}$ inch; of ovipositor 2 inches.

Hab.—New South Wales (G. Masters). One specimen; type in Macleay Museum.

MEGALYRA FASCIIPENNIS Westw.

Trans. Ent. Soc. London, Vol.iii. p.270, pl.xv. f.3, ♂, 1841-43; Griffiths' Anim. Kingdom, Ins., Vol.ii. p.419, pl.66, f.4, ♀, 1832; *M. rufipes* Erichson, Beitrag zur Insecten-Fauna von Vandiemensland, p.258, 1842.

This is the common species, with the hyaline or semitransparent forewings blotched across the centre and lightly clothed at the tips. General colour black; legs red; clothed with fine grey hairs upon the face, legs, and sides of the abdominal segments. Head broadly rounded; anterior ocelli nearer to the eyes than to each other. Abdomen elongate-oval, tapering to the extremity, pointed in the male, with the genitalia reddish-brown; first

segment and apical half of second smooth and shining, the rest finely shagreened. ♀. Length of body $\frac{1}{2}$ to $\frac{3}{4}$ inch; of ovipositor 2 inches.

Hab.—Melville Island, Tasmania, and Australia (Westwood); Melbourne, Vic., Tasmania, Sydney, N.S.W.(Froggatt).

This species lays her eggs in the larvæ of several species of longicorn beetles of the genus *Phoracantha*, which usually in the earlier stages of their existence feed between the bark and sapwood of different species of Eucalypts when these are dead or dying, and finally burrow into the more solid wood where they pupate. Probably the *Megalyra* finds them out when feeding just beneath the bark, through which she passes her stout ovipositor when inserting her egg. I have a fine series of both sexes taken by Mr. L. Gallard at Kenthurst, obtained when splitting up dead timber that was infested by the longicorn larvæ; the wasps were taken in the burrows of the beetle larvæ, fully developed and ready to emerge.

MEGALYRA RUFIVENTRIS Schl.

Berlin. Entom. Zeitschr. xxxiii. p.224, ♀., 1889.

This species has the base of the antennæ, legs beyond the femora, and the whole of the abdomen red; very lightly clothed with hairs, those upon the abdomen not forming distinct patches.

Hab.—Australia.

MEGALYRA SZEPLIGETII Bradley.

Trans. Ent. Soc. London, 1905, p.396.

♀. Entirely black; wings hyaline, barred with brown near the centre, and a spot at the extremity; lateral ocelli about the same distance from each other as they are from the eyes; scutellum coarsely punctured; the dorsal surface of the abdomen with the first segment and a narrow band at the second and third smooth and shining, the rest shagreened. Length 12 mm.; of ovipositor 34 mm.

Hab.—South Australia.

MEGALYRA CAUDATA Szepligeti.

Termes. Füzetek, xxv. p.527, 1902.

Dark brown with reddish areas; front legs beyond femora and hind legs beyond tibiæ reddish-brown; scutellum longitudinally wrinkled. Abdomen not sculptured like *M. szepligeti*.

MEGALYRA VARIEGATA, n.sp.

♂. Black, with 2nd-6th antennal joints and legs reddish-brown; wings semiopaque, clouded across the centre with fuscous, and smoky at the tips of the fore pair. Head broad; the hind ocelli closer to eyes than to each other; dorsal surface very regularly punctured; thorax more rugose than head; abdomen elongate-oval, very lightly clothed with rows of grey hairs on the sides; dorsal surface with the first and second segments smooth and shining, third to seventh finely shagreened. Length 5 lines.

♀. Similar to male in colouration, except that the second joint of the antennæ is black. Length of body 8 lines; of ovipositor $2\frac{3}{4}$ inches

Hab.—Melbourne (♂; J. A. Kershaw); Ballarat, Vic. (♀; C. French). Two specimens; type in Coll. National Museum.

MEGALYRA KALGOORLIENSIS, n.sp.

♀. Black, with the sides of the abdominal segments lightly marked with dull reddish-brown; legs and tarsi light reddish-brown; forewings semiopaque, broadly clouded in the centre. Head globular, finely punctured; hind ocelli closer to eyes than to each other. Thorax closely punctured, slightly marked behind with dull reddish-brown. Abdomen short, first segment shining, second to seventh finely but distinctly punctured, none of the punctures confluent. Length of body 6 lines; of ovipositor $1\frac{3}{4}$ inches.

Hab.—Kalgoorlie, W.A. (G. W. Froggatt). One specimen; type in Coll. Froggatt.

MEGALYRA PUNCTATA, n.sp.

♀. Black; legs reddish-brown, femora of the hind pair blotched with black; wings almost hyaline, marked with fuscous in the

centre, and lightly clouded at the tips in the fore pair. Head broad, hind ocelli closer to eyes than to each other. Dorsal surface of thorax uniformly rugose, somewhat confluent towards the apical portion. Abdomen short, cylindrical, rounded at extremities, with the sides of each segment ornamented with a patch of silvery hairs; first segment smooth, shining, second to seventh thickly but finely punctured, forming confluent rows on the anal ones. Length of body 6 lines; of ovipositor varying from $1\frac{1}{4}$ to $1\frac{3}{4}$ inches.

Hab.—Kalgoorlie, W.A. (G. W. Froggatt); Stannery Hills, N.Q (Horace Brown). Two specimens; type in Coll. Froggatt.

MEGALYRA VIRIDESCENS, n.sp.

♀. Black, with the legs dark reddish-brown; tarsi darker and clothed with very fine pubescence; wings hyaline, with the fore pair broadly barred with a fuscous blotch, and the tips faintly clouded. Head broad, hind ocelli about an equal distance from each other and the eyes. Thorax coarsely punctured. Abdomen short, elongate-oval, thickly tufted on the sides of the apical segments with silvery hairs; first and second segments perfectly smooth and shining, third finely shagreened only on the outer edges, fourth very finely shagreened, fifth more coarsely shagreened, sixth to seventh finely punctured. Length of body 6 lines; of ovipositor $2\frac{1}{4}$ inches.

Hab.—Albert Park, Melbourne, Vic. (A. Loring). One specimen; type in the National Museum.

MEGALYRA FRENCHI, n.sp.

♂. Black, first five and the base of the sixth joint of the antennæ reddish, the rest fuscous to black; forewings semitransparent, barred with fuscous. The whole insect lightly clothed with fine hairs. Head broad, finely punctured; hind ocelli as near to each other as to eyes. Thorax furnished in front with a very fine pointed spine on either side, the whole deeply and finely punctured. Abdomen small, pointed to the apex, first segment

smooth, shining, second shagreened, third to fourth coarsely shagreened, almost punctate, fifth to seventh more finely shagreened.

Hab.—Melbourne, Vic.(C. French). Three specimens; type in Coll. French.

MEGALYRA LYELLI, n.sp.

♀. Black, with the legs light reddish-brown; wings almost hyaline with a well defined fuscous blotch across the centre in the fore pair. Head broadly rounded, hind ocelli closer to each other than to eyes. Dorsal surface coarsely punctate, confluent on the metathorax. Abdomen somewhat oval and pointed at the extremity; first segment smooth, shining; second shining, faintly shagreened, third to seventh strongly but delicately shagreened. The whole insect clothed with scattered long grey hairs, thickest on the sides of the head, legs and apex of thorax. Length of body 5 lines; of ovipositor $1\frac{3}{4}$ inches.

Hab.—Gisborne, Vic.(G. Lyell). Two specimens; type in Coll. Froggatt.

MEGALYRA HIRSUTA, n.sp.

♀. Head, thorax and antennæ, except second joint, black; second joint of antennæ, legs, and abdomen dull red; forewings semiopaque, lightly clouded with brown across the middle. Head slightly depressed on the summit, eyes very prominent; hind ocelli closer to each other than to eyes; the whole finely and closely punctured. Thorax thickly and more irregularly punctured. Abdomen elongate-oval, first and apical half of second segments smooth and shining, base of second and rest of the segments very finely punctured. The whole insect clothed with scattered grey hairs forming a fine down on dorsal surface of head and thorax, and silvery bands on undersurface of abdomen.

Hab.—Tweed River, N.S.W.(A. M. Lea). One specimen; type in Coll. Froggatt.

MEGALYRA MINUTA, n.sp.

♀. Black, legs reddish-brown; wings hyaline, with a very slight fuscous blotch across the centre of forewings. [Head wanting.]

Thorax very rugose, very truncate in front, with the lateral spines very prominent. Abdomen oval, shining, first segment smooth, second to seventh finely punctured. Length of body 2 lines, of ovipositor 16 lines.

Hab.—Melbourne, Vic.(C. French). One specimen (damaged); type in Coll. French.

Though this unique specimen has no head, from its small size and excessively long ovipositor it is so distinct from any other known species that I have the presumption to give it a name.